REMARKS

I. Status of the Claims

Claims 48-69 are pending in this application with claims 1-47 and 70-94 previously cancelled. Claims 50, 53, 54, 66, and 67 are withdrawn as directed to non-elected species. The grammar of claim 48 has been amended to further clarify the orientation of each of the protruding elements. This amendment has Section 112 support in the specification as filed. Accordingly, no new matter is added with these claim amendments.

II. Rejection under 35 U.S.C. § 112

The Office rejects claims 48, 49, 51, 52, 55-65, 68, and 69 under 35 U.S.C. § 112, second paragraph for allegedly being indefinite. Final Office Action at 2. In particular, the Office takes issue with the phrase "in a plane" alleging that "it is unclear how [the protruding elements] can all be considered to occupy a single plane." *Id.*

Applicants respectfully disagree; however, claim 48 has been amended to clarify the grammar, such that each of the protruding elements lies in a plane and each plane is substantially perpendicular to the equatorial plane of the toroidal support.

In addition, Applicants note that the Office's characterization of the phrase "in a plane," and particularly that the protruding elements necessarily "occupy a **single** plane" is improper in that it imports a claim limitations that are not part of the claim. *See* M.P.E.P. § 2111.01(II). One of ordinary skill in the art would understand that the protruding elements within "the **radially** inner surface of the toroidal support," would **not** lie in a single plane if they are located on a radial surface. The Office appears to acknowledge this stating that "each of the protrusions defines a plane and that each of

these individual, respective planes are perpendicular to the equatorially bisecting plane of the tire core." Final Office Action at 2. The phrase "in a plane" taken in context with "substantially perpendicular to the equatorial plane of the toroidal support" therefore apprises one of ordinary skill in the art of its scope and is therefore definite. Accordingly, Applicants respectfully request withdrawal of the rejection.

III. Rejections under 35 U.S.C. § 103(a)

A. Claims 48, 49, 51, 52, 55-58, 61, and 63-64

The Office rejects claims 48, 49, 51, 52, 55-58, 61, and 63-65[1] under 35 U.S.C. § 103(a) over European Patent Application No. EP 0 976 534 to Caretta et al. ("Caretta") in view of International Patent Application Publication No. WO 01/62480 to Scarzello et al. ("Scarzello"), U.S. Patent No. 5,201,975 to Holroyd et al. ("Holroyd"), and U.S. Patent No. 4,382,757 to Roy et al. ("Roy"). Final Office Action at 3-7. Applicants respectfully disagree for the reasons of record and for the following reasons.

As discussed in the Response dated June 8, 2011, none of the cited references teach a toroidal support wherein the protruding elements are distributed on the radially inner surface corresponding to the crown portion of the green tire and each lies in a plane substantially perpendicular to the equatorial plane. *See e.g.,* claim 48. While the Office expressly acknowledges this, the Office contends that there are a very limited number of ways in which fins can be provided to the interior of a tire core." Final Office Action at 5. Therefore, the Office concludes that "[b]y virtue of the limited number of

[1] Applicants assume that the Office's omission of claim 65 from the rejection is a typographical error since reasoning is provided on page 7 of the Final Office Action for its rejection.

possibilities, a skilled artisan would have found it obvious to orient the fins perpendicularly." *Id.* Applicants respectfully disagree.

The Office's "obvious to try" approach is premised on the view that there are only a "limited number of possibilities" for one of ordinary skill in the art to experiment. However, under the current facts that is an insufficient basis for establishing a *prima facie* case of obviousness. Rather, M.P.E.P. § 2143(E) instructs that an element would have been obvious where [1] there is a recognized problem or need in the art, [2] it was obvious to try to obtain it from a finite and easily traversed number of options that was narrowed down from a larger set of possibilities by the prior art, and [3] the outcome of obtaining the claimed compound was reasonably predicted. *See also KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Here, none of the art cited recognized the particular problems associated with the arrangement of the protruding elements in relation to the toroidal support. In particular, while none of Caretta, Scarzello and Holroyd even disclose protruding elements, Roy only teaches their presence in the chambers of the mold without indicating **any** arrangement. Rather, Roy emphasizes the significance of the arrangement of the steam outlet openings, and not the individual fins. Roy at col. 6, ll. 62-65. Thus, the state of the art at the time of filing of the present application **failed to recognize any problem or need** with respect to the particular arrangement of the protruding elements in relation to the toroidal support. Therefore, the Office's conclusion that "a skilled artisan would have found it obvious to orient the fins perpendicularly" based on a "limited number of ways in which fins can be provided to the interior of a tire core" is not based on the findings in the art but rather based improperly on the instant application.

For example, Applicants found that the accumulation of water in the toroidal support adversely affects the heat exchange from the toroidal support to the inner surface of the green tyre. *See* As-filed Specification at page 10, line 33 to page 11, line 6 (while referring to the orientation of the sidewall portions, one of ordinary skill in the art would understand that this also apply for the claimed ribs orientation). Here, since the rotation axis of the toroidal support is vertically oriented during vulcanization, provision of protruding elements laying in a plane substantially perpendicular to the equatorial plane of the toroidal support allows water formed by condensation of the steam flow introduced into the toroidal support to be easily eliminated.

Moreover, Applicants found that the orientation of each of the protruding elements laying in a plane substantially perpendicular to the equatorial plane of the toroidal support actually allows for simpler manufacturing of the toroidal support. For example, formation of ribs is obtained by milling the inner surface of the toroidal support a solid sector of a toroidal support composed by a reduced number, i.e. 6-8, of sectors. In addition, protruding elements laying in a plane substantially perpendicular to the equatorial plane in the crown region aids the flow of the steam or other heating medium to smoothly run along the inner surface of the toroidal support from one to the other of the bead regions of the toroidal support. *See e.g.,* As-filed Specification at page 13, line 31 to page 14, line 4 and page 24 lines 19-21 in view of figure 4 (from which it clearly appears that a flow of steam coming from the geometric axis of the tyre radially reaches the inner surface of the toroidal support).

The art cited does not address these problems nor do they address solutions that can overcome those problems. Without any recognized problem or need in the art, the

claimed processes are not "obvious to try" as the Office proposes as there was no reason for one of ordinary skill in the art to pursue the particular arrangement of the claimed fins in the first place. The USPTO disapproves of obviousness rationales that depend on seemingly unnecessary work without an expected benefit. *See e.g., 2010 KSR Guidelines Update,* 75 Fed. Reg. 53643, 53646-67 (Sept. 1, 2010) (discussing *In re Omeprazole Litigation*, 536 F.3d 1361 (Fed. Cir. 2008)).

For the reasons discussed above, the combination Caretta, Scarzello, Holroyd, and Roy fails to render claims 48, 49, 51, 52, 55-58, 61, and 63-65 *prima facie* obvious. As such, Applicants respectfully request withdrawal of the rejection.

B. Claims 59, 60, 62, and 68

The Office rejects claims 59, 60, 62, and 68 under 35 U.S.C. § 103(a) over Caretta, Scarzello, Holroyd, and Roy, as applied to claim 48, further in view of U. S. Patent No. 1,394,928 to Midgley et al. ("Midgley"). Final Office Action at 7-9. Applicants respectfully disagree for at least the reason that the rejected claims all ultimately depend from claim 48. Midgley does not compensate for the deficiencies of Caretta, Scarzello, Holroyd and Roy, and in fact, fails to discuss ***any*** toroidal support comprising internal protruding elements. Accordingly, the combination of Caretta, Scarzello, Holroyd, Roy, and Midgley fails to render claims 59, 60, 62, and 68 *prima facie* obvious and thus, Applicants respectfully request withdrawal of the rejection.

C. Claim 69

The Office rejects claim 69 under 35 U.S.C. § 103(a) over Caretta, Scarzello, Holroyd, and Roy, as applied to claim 48, further in view of U. S. Patent No. 5,937,517 to Smith et al. ("Smith"). Final Office Action at 9. Applicants respectfully disagree and

traverse the rejection for at least the reason that claim 69 ultimately depends from claim 48. Smith fails to remedy the deficiencies of Caretta, Scarzello, Holroyd and Roy. Rather, Smith is directed to a method of manufacturing a high performance dual bonded fin heat sink where said heat sink has a specific arrangement of fins in an alternating arrangement. Smith at Abstract; *see also* col. 2, ll. 28-50 and Figs. 1-7. Thus, Smith actually teaches away from the claimed process wherein a plurality of protruding elements can be distributed on the radially inner surface of the toroidal support corresponding to the crown portion of the green tire, and can lie in a plane substantially perpendicular to the equatorial plane of the toroidal support. Accordingly, the combination of Caretta, Scarzello, Holroyd, Roy, and Smith would have led one of ordinary skill in the art in a completely different direction than the claimed process and as such, does not render claim 69 *prima facie* obvious. Thus, Applicants respectfully request withdrawal of the rejection.

IV. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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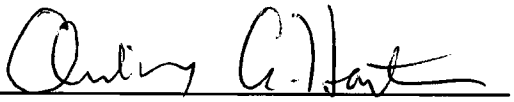
By: 

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